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May 13, 2013

Ms. Leslie Markham
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Re: EPIC and Humboldt Baykeeper comments for Timber Harvest Plan 1-12-113HUM
“McCloud Creek #5 East”

Dear responsible officials:

The Environmental Protection Information Center (EPIC) and Humboldt Baykeeper present the following comments regarding Timber Harvest Plan (THP) 1-12-113HUM “McCloud Creek East #5.” Please include these comments and associated attachments in the record for the above-referenced THP.

I. Introduction

1. Summary

The “McCloud Creek East #5” THP risks exacerbating ongoing significant adverse cumulative effects from past timber harvest in the Elk River watershed. As constructed, the cumulative impacts assessment provided in Technical Rule Addendum No. 2 does not ensure that impacts from the “McCloud Creek East #5” THP will avoid contributing to the existing impairment in the Elk River watershed. The cumulative effects analysis fails to provide meaningful limitations on timber harvest-related impacts to downstream private property and public trust resources. Furthermore, damaging practices such as clearcutting will only serve to exacerbate ongoing significant adverse and cumulative impacts to the system and impede the recovery process for the Elk River. Finally, public trust representative agencies such as CAL FIRE and the Regional Water Quality Control Board have miserably failed to address the potential for this plan to add to cumulative effects that are already clearly significant.

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2. Background

The 2005 North Coast Regional Water Quality Control Board's 2005 Staff Report for Freshwater and Elk River [**Attachment A**] provides a succinct rendering of the history and causes of cumulative watershed effects in the Elk River watershed:

“Over the last twenty years, PALCO has harvested timber on approximately 80% of its ownership in the Elk River and Freshwater Creek watersheds. (Attachment A) As harvesting at this rate proceeded in these watersheds, residents began to complain of degraded water quality and channel conditions, damage to domestic water supplies, and increases in the frequency and magnitude of flooding resulting from sedimentation and increased peak flows. The cumulative effects of ongoing and extensive timber harvesting in these watersheds became broadly apparent to watershed residents, local resource professionals and agency personnel in 1997, following widespread landsliding and erosion caused by a particularly large rainfall event. Since that time, the Regional Water Board and other state and federal agencies have acted to promote the recovery of these watersheds while continuing to regulate PALCO's ongoing timber harvest activities.”(North Coast Regional Water Quality Control Board. 2005)

Since this time, the North Coast Regional Water Quality Control Board has issued a Cleanup and Abatement Order and Watershed Waste Discharge Requirements. The Waste Discharge Requirements included, among other things, a limit on the Clearcut Equivalent Acres to be harvested and a limitation on the amount of increase in peak flows. These measures in combination with the so-called “moratorium” on approval of new THPs for prior to the completion of watershed analysis was thought to be adequate to prevent timber harvest-related activity from combining with the ongoing significant cumulative watershed effects. The Pacific Lumber Company bankruptcy brought about a change in managers, and management strategies for most of the Elk River watershed. However, Green Diamond Resource Company continues the arcane practice of clearcutting in the Elk River watershed as is demonstrated by this THP.

3. Project details

The “McCloud Creek East #5” THP proposes a total of 99 acres of timber harvest within the lower South Fork Elk River state planning watershed. Silviculture is comprised of 70.2 acres of clearcutting, 11 acres of selection in Riparian Management Zones (RMZs) and Riparian Slope Management Zones (RSMZs), 5.5 acres of selection in Special Operating Zones (SOZs) and Habitat Retention Areas (HRAs), and 2.5 acres of no-harvest. In addition, the plan proposes 4 acres of seasonal road reconstruction, 2 acres of seasonal road construction within the plan area, and 2 acres of road construction outside of the plan area.

Section III, page 58 of the plan indicates that the stands to be harvested under this THP are ‘young growth’ redwood with an average age of over 50 years old. Section II, Item #26 of the plan indicates that Class I, Class II, and Class III watercourses all run through or adjacent to the

THP area.

Very little discussion or data is presented to assess potential biological resources at risk. For Example, Section III Item #32(a) of the plan fails to conclusively disclose whether or not Coho, Chinook, or Steelhead are or may be present within or adjacent to the plan area. The plan does acknowledge potential impacts to Northern Spotted Owls and Osprey sites.

II. Comments regarding the “McCloud Creek East #5” THP and cumulative watershed effects

1. Logging, sediment and flooding in the Elk River

Dr. Leslie Reid (1999) provided a detailed critique of the Pacific Lumber Company’s *Analysis of Flooding in the Elk River and Freshwater Creek Watersheds*. This critique provides a succinct conclusion regarding logging, sediment and flooding in those watersheds:

“The report by Pacific Lumber Company (PL 1999) that is here reviewed was prepared in response to the decision by the California Department of Forestry (CDF) that new Timber Harvest Plans (THPs) would not be approved in Freshwater and Elk River watersheds until studies were completed that evaluated the relationship between logging and downstream flood hazard and sedimentation in Freshwater Creek and Elk River. The report concludes that there is no evidence that logging has influenced these impacts, and that the requirement for watershed analysis before THPs are approved is therefore unnecessary. However, examination of the report indicates that much of the information it contains supports the opposite conclusion: that recent logging has contributed to sedimentation and increased flood hazard in the two watersheds. Evidence within the report thus suggests that CDF’s decision is well-founded.”(Review of: An analysis of flooding in Elk River and Freshwater Creek watersheds, Humboldt County, California. Reid L.M. 1999). [**Attachment B**]

Dr. Reid summarized her assessment of the Pacific Lumber Company flooding analysis thusly:

“The reviewed report (PL 1999) attempts to demonstrate that logging conducted over the past decade or so in Freshwater and Elk watersheds has not caused increased flooding in downstream portions of the watersheds. However, most of the report’s sections include information that supports the hypothesis that logging has aggravated flood hazard, produce conclusions that contradict field evidence or recently obtained information, or contain analyses that are insufficient or invalid in their present form...”

Dr. Reid clearly indicates that the best available information suggests that despite contentions by Pacific Lumber Company, logging, and the resulting sediment have caused and exacerbated flooding effects in Elk River and Freshwater Creek.

2. Changes in channel capacity

A major concern with respect to sedimentation and flooding is the reduction of channel capacity in Elk River. In its 2013 Report on channel aggradation in Elk River and Freshwater Salmon Forever has demonstrated that channel capacity in the Elk River has continued to be reduced.

The report details changes in channel monitored cross sections over time. This report clearly demonstrates how channel aggradation and infilling are still prevalent in all reaches of the watershed. [Attachment C]

Indeed, Dr. Reid describes this affect in her review of the flooding analysis when discussing the basic premises of the analysis:

The chapter on sediment and channel data (Chapter 4) attempts to test five premises which, if true, would lead to the conclusion that logging-related sediment has contributed to downstream flooding:

Premise 1. Logging increases the delivery of sediment to streams: the chapter concludes that this is indeed the case

Premise 2. This increased sediment delivery cannot be accommodated by the stream's natural sediment transport capability: the chapter's argument that the channel type and grain size do not facilitate aggradation is contradicted by observed locations of aggradation, documented measurements of aggradation, and observed grain sizes of the aggrading sediment.

Premise 3. Aggradation occurs in the areas where flooding is of concern: the chapter's argument that many of the measured cross sections do not show aggradation is countered by the observation that the only long-term measurements made in stream reaches where increased flooding is reported all show channel infilling of 34 to 42%.

Premise 4. Such aggradation has a significant effect on the flood carrying or "conveyance" capacity of the stream: the chapter's argument that scour is sufficient during peak flows to increase channel conveyance to near original levels is countered by noting that sediment in transport in the water column occupies nearly the same volume as sediment at rest on the channel bed. Further, field evidence indicates that little, if any, scour occurs on fine-grained deposits on channel banks, which is where the major portion of the sediment accumulates.

Premise 5. The increase in flooding caused by the reduced conveyance capacity actually leads to the inundation of homes, roads, and other structures that otherwise would not have been flooded: the chapter calculates the effect using the erroneous assumption that shallow water on a floodplain flows at the same velocity as deep water in a channel. When standard methods are used to calculate flow depth, however, results show that a 41% decrease in channel area (approximately equivalent to that measured by PL (1999) on North Fork Elk River) would cause more than a 3-foot increase in stage for what once was a bankfull flow, thus leading to flooding.

The available evidence thus suggests that each premise is true...

Changes in and loss of channel capacity are not addressed by limiting peak flow changes as is suggested by the THP and as is suggested by the imposition of such a limitation. Peak flow limitations alone do not account for the sediment which drops out into the channel, causing aggradation, and reductions in channel capacity.

3. Rate of Harvest and cumulative watershed effects

High rates of harvest can result in significant cumulative watershed effects. The Elk River watershed represents a classic example of this. Despite the implementation of a rate of harvest limitation via restricting clearcut equivalent acres and peak flow effects, the agencies have failed to address the cumulative effects or repeated and successive entries on management-related sediment effects.

According to the Draft Sediment Source Analysis (Regional Water Quality Control Board 2011) management-induced vegetation and ground disturbance can influence the magnitude of surface erosion. Specifically, timber harvest activities 1) Removes overstory canopy cover resulting in elevation in the effective rainfall reaching the ground to dislodge and transport soil particles. 2) Causes soil compaction through the use of heavy equipment, skidding trails of logs, and site preparation thus altering surface and subsurface flow paths, concentrating and diverting water, 3) Disturbs the understory vegetation, top soil, and mycology network, all which have the ability to affect the natural binding properties protecting from erosion. 4) Harvesting trees and mechanical site preparation disturbs and removes future recruitment of duff which naturally protects the forest soils from disturbance and erosion. 5) Burning reduces cation exchange capacity and long-term productivity of soil and exposes soil to erosion. 6) Herbicides bind with soil particles increasing erosion.

Given the rate and intensity of timber harvest activities in the Elk River over the last 20 years, it is simply inconceivable to think this plan as proposed will not add to and compound these effects in some manner.

4. Failures of the cumulative watershed effects assessment

It has long been known that the cumulative effects assessment provided in Technical Rule Addendum No. 2 does not adequately assess, address, or prevent significant adverse cumulative watershed effects. The case of Elk River is a clear example of this. It should be noted that all of contemporary timber harvest-related significant adverse cumulative watershed effects have occurred under the guise of THPs approved by CAL FIRE, all carrying the determination of “no significant adverse cumulative effects.” CAL FIRE approved THPs have resulted in significant adverse cumulative watershed effects in the Elk River watershed, despite the Department’s consistent contention that no significant effects were expected.

Once again, we turn to Dr. Reid and her 1999 analysis of the Forest Practice Rules Cumulative Effects analysis. Dr. Reid provided the following summary:

1. There is nothing mysterious about cumulative impacts. Most environmental impacts are influenced by multiple land-use activities, so most impacts are cumulative impacts. Projects must be evaluated to understand how they will influence existing or potential future impacts, and this is the essence of a cumulative impact assessment. Examination of recently approved THPs and SYPs indicates that plans are being approved that do not contain technically valid cumulative impact assessments.

2. As currently implemented, California Forest Practice rules have not

prevented the cumulative watershed impacts that led to the recent listing of multiple northern California streams as impaired by sediment under section 303(d) of the Clean Water Act.

3. Recent studies demonstrate that current Forest Practice rules are not adequate to prevent forestry related changes to the production and transport of sediment, water, and woody debris in watersheds. Changes in these “watershed products” are the most common causes for downstream cumulative impacts.

Dr. Reid concluded:

“Considerable commentary on how Forest Practice Rules might be improved has been provided by others in the past. The Little Hoover Report of 1994, for example, describes the need to better incorporate expertise from other agencies into CDF’s decision-making process and also describes the need for watershed-scale evaluations. Even before that, the LSA report of 1990 identified the cumulative impact analysis methodology as inadequate, stating that “there is a general recognition within the forestry profession that the process needs to be modified.” The LSA report also notes that “Many Ors [official response to public comments] do not compare favorably with the standard of presenting a reasoned meaningful response to environmental comments and of demonstrating the scientific opinion and/or reasoned analysis that supports the THP decision.” Meanwhile, several court cases have demonstrated the need to assess the influence of a plan on downstream cumulative impacts even if those impacts occur outside of a designated watershed assessment area.

Unfortunately, conclusions from these reports and decisions have not been reflected in institutional change. It may be useful to determine why previous findings have not been acted upon. If the reason turns out to be that there is an institutional resistance to change or an institutional denial of the need for change, then the need for a fundamental change in agency responsibilities may be even stronger than suggested above. Experience with a variety of institutions suggests that regulations are ineffectual if staff of the agency responsible for administering and enforcing those regulations do not believe the regulations are necessary or useful. There once again is widespread recognition that the state’s strategy for management of forestry related cumulative watershed impacts needs to be modified. Three committees established under the auspices of either the CDF or the Board of Forestry are currently compiling reports dealing with aspects of the problem. It remains to be seen whether these reports will be forgotten as quickly as those prepared by LSA and the Little Hoover Commission, or whether effective changes will be made.” (Reid, 1999) [Attachment E]

Indeed, the Department itself has recognized the ineffectiveness of the current cumulative impacts assessment methodology in *Cumulative Impacts Analysis: A report of the CDF Director's THP Task Force* (Tuttle 1999) The CDF report states that:

The Report contains both analysis and recommendations. The primary conclusion is that more emphasis needs to be placed on watershed assessment to set the context for evaluating cumulative effects. The Report suggests that Review Team agencies provide greater guidance to foresters in preparing plans. Through a variety of approaches, including some suggested changes to Forest Practice Rules, increased training and

improvement of the cumulative impact checklist, the Report also offers ideas on how to enhance cumulative impacts assessment.

The report goes on to recommend the following:

- better background information on natural processes,
- watershed level analysis protocols,
- clearer guidance on cumulative impact analysis (including changes in the Forest Practice Rule)
- clearer guidance on mitigation measures, and
- expanded monitoring, training, and information.

Despite the fact that a watershed analysis has been conducted for the Elk River watershed, the cumulative effects analysis provided in individual THPs has proven ineffective to address ongoing significant adverse cumulative effects. The THP does not discuss such important issues as aggradation and loss of channel capacity which have resulted from past timber harvest-related sediment, and does not provide any mitigation for the harm done to downstream property and beneficial uses of water related to reductions in channel capacity. Once again, simply addressing peak flow as a means of mitigation only addresses part of the problem, and does not deal with the chronic effects of accumulated harm done to downstream property and beneficial uses of water.

5. Green Diamond Responses (or lack thereof) to Regional Water Board First Review Questions

During first review for the “McCloud Creek East #5” THP, the Regional Water Quality Control Board staff raised several questions that requested specific quantitative answers. For example, review team question #5 requests:

The Cumulative Effects analysis in Section IV only briefly touches on the existing sediment related impacts in this portion of Elk River. A more thorough discussion of these impacts needs to be provided that includes:

- Quantification of the increased incidence of flood frequency and magnitude due to reduced conveyance capacity due to instream deposits;
- Descriptions of the health and safety risks to the Elk River community associated with the current flooding regime;
- Descriptions of domestic and agricultural water supplies impairments due to sediment deposition and suspended sediment loads;
- Descriptions of reaches where sediment conditions are impairing salmonid rearing and spawning habitat: and
- Available HRC cross-sectional data that points to ongoing deposition within the middle reach of Elk River and an accompanying discussion. (WQ)

However, no actual quantitative data is presented in Green Diamond's response to these questions. Green Diamond has utterly failed to provide any evidence, let alone substantial evidence to justify how the plan will address the issues raised by the Regional Board. Such information is vital to substantiate the Department's determination relative to the significance of impacts resulting from this THP as proposed.

14 CCR 897(b)(3) provides that the RPF is responsible for providing the Department and other reviewing agencies, as well as the public with sufficient information to allow the Director to exercise discretion in carrying out the intent of the Act and the Rules. The Department has the authority to request information not otherwise required by the Rules to determine whether individual or cumulative impacts are likely to occur. Green Diamond's responses to Regional Water Board Questions are speculative and qualify as unsubstantiated narrative. Green Diamond simply provides discussion that relies totally on the presumption that its Aquatics Habitat Conservation Plan (HCP) and its property-wide WDR order will be sufficient to avoid significant adverse individual or cumulative impacts. No evidence is provided that either of these agreements will eliminate sediment production, or that sediment to be produced from clearcutting as proposed in this plan will not be significant.

The Department will most certainly argue that the information requested by the Water Board is not necessary in order to render a determination of significance given Green Diamond's responses and the Regional Board's placid acceptance of the responses. While we recognize and acknowledge the utter failure of the Regional Water Board to stand by its own questions, we believe the questions are nonetheless valid and that quantitative responses based on substantial evidence are nevertheless required. Please explain how the Department is able to render a determination relative to significance without any quantitative data to answer key questions directly related to the potential significance of the impacts of the project.

6. Green Diamond/Regional Board/CAL FIRE reliance on the property-wide WDR

Both Green Diamond and the reviewing agencies appear to be content with the assumption that the company's property-wide WDR order will be sufficient to avoid or substantially lessen potentially significant adverse individual and cumulative effects of this project as proposed. Again, no actual data or evidence is present within the record to substantiate this assumption.

It should be noted that EPIC and others filed a formal petition for review of the WDR order with the State Water Resources Control Board in November of 2012. It is our contention that adoption of the property-wide order is in violation of CEQA and the state and federal ESAs. Reliance on this order is simply not sufficient for the Department to make its determination because of the lack of substantial evidence relative to the impacts of the order, and lack of specific data within the THP record to demonstrate how the order will serve to avoid significant adverse individual and cumulative impacts.

Once again, we anticipate that the Department will argue that reliance on the order is sufficient because the Regional Board moved to approve the order. Here again we would argue that the actions of the Regional Water Board and its staff bear no relevance on the Department's

responsibilities under the Act, the Rules, and indeed CEQA to ensure that substantial evidence exists in light of the whole of the record to support its determinations of significance.

7. Failure to conduct detailed hydrologic review

In addition to a notable lack of quantitative and meaningful responses to Regional Board first review questions, this plan is also incomplete and inadequate to assess potentially significant adverse individual and cumulative effects due to the lack of a detailed hydrologic review of the project conducted by a qualified individual that would quantify potential sediment delivery and aid the Department in making its determination.

For most THPs in the Elk River watershed, the Department has requested that its staff hydrologist Mr. Pete Cafferata conduct a quantitative review of the proposal in the project and how the proposed operations will affect sedimentation and peak flows. It is unclear why the Department has chosen not to conduct such a review for this THP.

Mr. Cafferata's quantitative analysis of the potential impacts of the "McCloud Creek East #5" THP would give the Department and the reviewing public a window into the actual impacts and assist in the assessment of risk and significance. There appears to be no good reason why such an assessment should not be conducted. Please explain why no hydrologic review was conducted for this THP. Given the level of significance of impacts acknowledged to be ongoing in the Elk River watershed, please explain why this review or assessment is not reasonable and necessary for the Department to request in order to make a determination of significance based on substantial evidence.

8. Relationship between pending TMDL and individual THP approval

Given the impending release of the Elk River TMDL and the important implications it will have for timber management limitations, it seems premature to approve THPs that will not implement such measures. Indeed, it is highly questionable whether the currently allowed rate of harvest and proposed harvest practices associated with this THP will be consistent with the requirements of the TMDL. Given this, please explain why delaying the project until the TMDL is released and its management implications are understood is not an equally feasible less damaging alternative than the project as proposed.

9. Conclusion

Determinations regarding significance must necessarily take into account the actual harm and damage being done to downstream property and resources. What is significant to downstream stakeholders is clearly not the same as what the Department deems to be significant, and this appears to have been the case for some time. The spirit and intent of CEQA clearly affords for the mitigation of off-site impacts, such as those being experienced by the residents in the depositional reaches of Elk River. As proposed, the "McCloud Creek East #5" THP does not provide mitigation for these ongoing effects, and does not address critical aspects of the nuisance flooding being experienced downstream. The Department has failed to prevent these impacts

from occurring, and has continued to allow incremental impacts under the guise of ‘no significant adverse cumulative effects.’

The Department has failed in its duty to facilitate restoration and recovery of properly functioning watershed conditions as mandated by the Forest Practice Act and the Forest Practice Rules. Restoration of watershed resources and watershed processes is as much a mandate of the Act and the Rules as is maximum sustained production. The Department has the authority, and indeed the obligation to facilitate restoration and recovery, as well as the abatement of significant off-site impacts caused by projects it approves. In its January 2nd, 2009 letter to the Board of Forestry entitled *Advise Regarding Board of Forestry’s Regulatory Authority to Provide for Restoration of Resources*, [Attachment E] The California Attorney General’s Office wrote:

“The Board's general authority to promulgate regulations is found in section 4551, which specifically defines the goals for the forest practice rules and regulations. It states (in essential part) that:

The board shall adopt district forest practice rules and regulations . . . in accordance with the policies set forth in Article 1 (commencing with Section 4511) . . . to assure the continuous growing and harvesting of commercial forest tree species and to protect the soil, air, fish, and wildlife, and water resources, including, but not limited to streams, lakes, and estuaries.

The language here is important. The rules and regulations are (1) to assure the continuous growing and harvesting of commercial forest tree species, and, (2) to protect the soil, air, fish, and wildlife, and water resources. Both parts of the mandate are equal: to assure timber growth and to protect the forest resources. Further, section 4551.5 requires the Board to adopt regulations that include, but are not limited to, measures for soil erosion control, water quality and watershed control, flood control, stocking, and protection against timber operations which unnecessarily destroy young timber growth or timber productivity of the soil, among other required subjects.” (California Attorney General’s Office. 2009)

The Forest Practice Act intends that timber harvest go hand in hand with protection and restoration of public trust resources. Over the last 30 years, this delicate balance has been tipped in favor of timber production in the Elk River watershed. The Department has a responsibility under the Act to ensure restoration of properly functioning watershed conditions in all areas of Elk River affected by timber harvest activities it has and continues to permit.

We recommend that the cumulative impacts assessment be revised to address losses in channel capacity, and to address why further inputs of sediment are not significant in light of existing conditions and the real impacts accruing to property and resources downstream. This THP should also be revised to address how watershed restoration can be achieved while timber production continues. Lacking these revisions, the cumulative effects analysis in this plan is not complete, and is not likely to lead to restoration, or the abatement of ongoing significant adverse cumulative watershed effects.

14 CCR 898.2(C) provides that no THP shall be approved if the plan is incomplete, materially misleading, or insufficient to evaluate potentially significant adverse impacts. The “McCloud Creek East #5” as proposed is clearly incomplete and inadequate to assess potentially significant adverse individual and cumulative impacts due to the lack of critical information and analysis that would provide the Department substantial evidence to support its determinations. Therefore, the THP should be revised or simply denied.

Sincerely,

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Attachments

Attachment A: North Coast Regional Water Quality Control Board. 2005. Staff Report for Freshwater and Elk River.

Attachment B: Reid L.M. Review of: An analysis of flooding in Elk River and Freshwater Creek watersheds, Humboldt County, California. 1999.

Attachment C: Salmon Forever, 2013. Annual Report on Channel Aggradation in Freshwater and Elk

Attachment D: North Coast Regional Water Quality Control Board. 2011. Draft Staff Report, Elk River Sediment TMDL Sediment Source Analysis for Upper Elk River.

Attachment E: Reid L.M. 1999. Forest Practice Rules and cumulative watershed impacts in California.

Attachment F: California Department of Justice Attorney General's Office. January 5, 2009. Advice Regarding Board of Forestry's Regulatory Authority to Provide for Restoration of Resources.

References

Cal Fire. Cumulative Impacts Analysis: A report of the CDF Director's THP Task Force. 1999.